

The Saturnioidea (Moths) of Rancho Grande, North-central Venezuela¹

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[This is one of a series of papers resulting from the 45th, 46th and 47th Expeditions of the Department of Tropical Research of the New York Zoological Society, made during 1945, 1946 and 1948, under the direction of Dr. William Beebe, with headquarters at Rancho Grande in the National Park of Aragua, Venezuela. The expeditions were made possible through the generous cooperation of the National Government of Venezuela and of the Creole Petroleum Corporation.

[The characteristics of the research area are in brief as follows; Rancho Grande is located in north-central Venezuela (10° 21' N. Lat., 67° 41' W. Long.), 80 kilometers west of Caracas, at an elevation of 1,100 meters in the undisturbed montane rain forest which covers this part of the Caribbean range of the Andes. Adjacent ecological zones include seasonal forest, savanna, thorn woodland,

cactus scrub, the fresh water lake of Valencia and various marine littoral zones. The Rancho Grande area is generally subtropical, being uniformly damp throughout the year because of the mountain cloud cap. The dry season extends from January until April. The average humidity during the expeditions, including parts of both wet and dry seasons, was 92.4%; the average temperature during the same period was 18° C.; the average annual rainfall over a 5-year period was 175 cm. The flora is marked by an abundance of mosses, ferns and epiphytes of many kinds, as well as a few gigantic trees. For further details, see Beebe & Crane, *Zoologica*, Vol. 32, No. 5, 1947. Unless otherwise stated, the specimens discussed in the present paper were taken in the montane cloud forest zone, within a radius of 1 kilometer of Rancho Grande.]

INTRODUCTION

THIRTY-FIVE species of Saturnioidea were taken at Rancho Grande, in comparison with 29 at Caripito, approximately 350 miles to the east in the State of Monagas. For the ecology of Caripito see Beebe, *Zoologica*, Vol. XXVIII, pp. 53-59 (1943), and for general collecting conditions of Rancho Grande and Caripito see Fleming, *Zoologica*, Vol. XXXII, pp. 133-138 (1947). In the following table the most interesting comparison is that twice as many Citheroniinae were taken at Caripito as at Rancho Grande, and conversely twice as many Hemileucinae at Rancho Grande as at Caripito. No Oxytenidae were taken at Caripito, and of the Saturniidae, of which 32 species were taken at Rancho Grande and 29 at Caripito, only ten species were common to both localities.

TABLE 1. NUMBER OF SPECIES OF SATURNIOIDEA
AT CARIPITO AND RANCHO GRANDE

| | Caripito | Rancho Grande | In common |
|---------------|----------|---------------|-----------|
| Oxytenidae | 0 | 3 | 0 |
| Rhescyntinae | 5 | 5 | 3 |
| Citheroniinae | 14 | 7 | 4 |
| Hemileucinae | 8 | 16 | 2 |
| Saturniinae | 2 | 4 | 1 |
| Total species | 29 | 35 | 10 |

In this paper I have followed the classification of Michener, *Bull. Amer. Mus. Nat. Hist.*, Vol. 98, Art. 5 (1952). All specimens are males except when otherwise stated or when the date of capture is followed by the sign ♀ in parentheses. Numbers in parentheses following a date refer to the number of specimens taken on that day.

CERCOPHANIDAE

The following species, represented by only one specimen, was not taken at Rancho Grande

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but at Paramo del Portachuelo near Merida, approximately 250 miles to the west of Rancho Grande, at an elevation of 3,000 meters. I have included it because it represents a new family record for Venezuela.

JANIODES ECUADORENSIS ECUADORENSIS
(Dognin)

Dognin, Le Naturaliste, XII, p. 50 (1890). (*Oxytenis*).

One specimen taken at Paramo del Portachuelo near Merida on August 11.

Range.—Colombia, Ecuador and Peru.

OXYTENIDAE

ASTHENIDIA GEOMETRARIA (Felder)

Felder, Wien Entom. Monatschr., VI, p. 188, No. 177 (1862). (*Asthenia*).

Six specimens: April 25, May 23 and 31; June 5 and 21; August 11.

Range.—Colombia, Ecuador, Peru, Bolivia, Guianas and Brazil. A new record for Venezuela.

OXYTENIS MODESTIA (Cramer)

Cramer, Pap. Exot., III, p. 143, Index, p. 175, t. 272, figs. C, D (1780). (*Phalaena Attacus*).

Three specimens: May 2 (461066g) and 22 (♀); June 12.

Range.—Guatemala to southern Brazil and Bolivia.

OXYTENIS NAEMIA ARAVACA Jordan

Jordan, Novit. Zool., XXXI (1), p. 160, t. VII, fig. 11 (1924).

One male specimen on August 18 (46979).

Range.—The species is reported from Costa Rica to the Amazons and Peru. The subspecies was described from British Guiana and Venezuelan material.

SATURNIIDAE

RHESCYNTINAE

RHESCYNTIS (ARSENURA) ARMIDA (Cramer)

Cramer, Pap. Exot., III, p. 6, t. 197, fig. A (1779). (*Phalaena Attacus*).

Four specimens: May 12, 18 and 21; the only male on June 16.

Range.—Mexico to south Brazil. First Venezuelan record was Caripito, eastern Venezuela, where it is a very common species.

RHESCYNTIS (PARADAEMONIA) NYCTERIS
(Jordan)

Jordan, Entom. Mitteil., XI, p. 193 (1922). (*Dysdaemonia*).

Thirteen specimens: May 22; July 1, 3 (2), 5, 8, 11 (5) and 17 (2).

Range.—Described from Venezuela.

RHESCYNTIS (DYSDAEMONIA) BOREAS BOREAS
(Cramer)

Cramer, Pap. Exot., I, p. 110, t. LXX, fig. B (1775). (*Phalaena Attacus*).

Two female specimens on May 22.

Range.—Widely distributed in the neotropics. The other subspecies, *brasiliensis* Rothschild, is found in the southeastern part of the species range.

RHESCYNTIS (TITAEA) TAMERLAN (Maassen)

Maassen, Beitrage z. Schmett., Het. I, fig. 11 (1869). (*Dysdaemonia*).

One male on April 15.

Range.—Colombia, Guianas and Brazil. A new record for Venezuela.

COPIOPTERYX SEMIRAMIS BANGHAASI Draudt

Draudt in Seitz, Grossschmett. d. Erde, VI, p. 798, t. 130 A b (1930).

Ten specimens: April 25 (2) and 30 (2); May 25, 27 and 31; June 10; July 1. Several more were seen.

Range.—The species occurs from Guatemala through Colombia to Bolivia and Argentina, the subspecies from Guatemala to Venezuela.

CITHERONIINAE

EACLES MAGNIFICA APPROXIMANS Bouvier

Bouvier, Ann. Sci. Nat. Zool., (10) VII, p. 147 (1924).

Two males on May 6 and females on July 2 and 7. These specimens are larger than those taken at Caripito.

Range.—The species is generally distributed in the neotropics with this subspecies only reported from Venezuela.

SYSSPHINX (BOUVIERINA) MARGINATA
(Bouvier)

Bouvier, Bull. Mus. Hist. Nat. Paris, p. 359, fig. (1923). (*Adelocephala*).

Five specimens: March 18; April 20 (♀); May 7 (2) and 25 (♀).

Range.—French Guiana and northern Brazil. This is a new record for Venezuela.

SYSSPHINX (BOUVIERINA) QUADRILINEATA
(Grote & Robinson)

Grote & Robinson, Trans. Amer. Entom. Soc., I, p. 11, t. I, fig. 2 (1867). (*Adelocephala*).

Sixteen specimens: April 18; May 22 (2) and 30; June 11 (2), 18 and 27; July 12 (♂ ♀), 16 and 19; August 1 (♀), 16 and 19 (2).

Range.—United States to Colombia. This is the first record from Venezuela.

SYSSPHINX (SYSSPHINX) MOLINA MOLINA
(Cramer)

Cramer, Pap. Exot., IV, p. 25, t. 302, figs. E, F (1780). (*Phalaena Bombyx*).

Three female specimens, one on April 10 and the other two on June 28.

Range.—The species is distributed throughout the neotropics and the subspecies is restricted to South America.

ADELONEIVAIA CARISIMA (Schaus)

Schaus, Trans. Amer. Entom. Soc., XXX, p. 141 (1904). (*Syssphinx*).

One specimen on May 2 and another June 22.

Range.—Described from British Guiana and also taken at Caripito, eastern Venezuela.

ADELONEIVAIA JASON (Boisduval)

Boisduval, Ann. Soc. Entom. Belgique, XV, p. 83, No. 2 (1871-2). (*Othorene*).

Ten specimens: April 2 (♀); May 6, 7 and 22; June 11, 13, 16 (2) and 25 (♀); July 25 (♀).

Range.—Mexico to Colombia and Brazil. This is the first record from Venezuela.

ADELOWALKERIA (ADELOWALKERIA)

FLAVOSIGNATA CARIPITENSIS (Fleming)

Fleming, Zool., XXX, pt. 2, p. 78, pl. I, fig. 4, text-figs. 2C, D (1945). (*Syssphinx*).

Six specimens: April 14 and 16 (3); May 8; June 16.

Range.—Recorded from Colombia, French Guiana and southern Brazil. The subspecies was described from Caripito, eastern Venezuela.

HEMILEUCINAE

LONOMIA (LONOMIA) CYNIRA (Cramer)

Cramer, Pap. Exot., II, p. 89, t. CLII, fig. C (1777). (*Phalaena Bombyx*).

Two males taken on April 3 and August 1.

Range.—Mexico to the Guianas. A new record for Venezuela.

LONOMIA (PERIGA) FALCATA (Walker)

Walker, Cat. Lep. Het. Brit. Mus., IV, p. 895, No. 14 (1855). (*Darala*).

Four specimens: April 20; May 22 (♀); June 2 (♂ ♀).

Range.—Venezuela to Peru and Brazil.

AUTOMERIS (AUTOMERIS) JANUS (Cramer)

Cramer, Pap. Exot., I, p. 100, t. 64, figs. A, B (1775). (*Phalaena Attacus*).

Twenty-six specimens: March 30, April 12 (♀), 24, 25 and 30; May 11 (♀), 13, 14 (♂♂♀), 17, 20, 22, 26, 27 (46510) and 28; June 2 (2), 6, 12, 13, 14, 16 and 28; July 1 (2).

Range.—Colombia, Ecuador, Venezuela and Guianas.

AUTOMERIS (AUTOMERIS) METZLI Salle

Salle in Guérin-Méneville, Rev. Mag. Zool., (2), V, p. 171-173, t. V, fig. 1 (1853).

Thirty-one specimens: March 30; April 23 (46368), 25 and 30 (2), May 5, 7, 9, 14, 15 (46465), 17 (2), 18, 22, 24 (2), 26, 27 and 28; June 2, 4, 6 (2), 13, 14 (2), 16 and 28; July 1 (2) and 8. No females seen or captured.

Range.—Mexico, Guatemala and Honduras. This is a new record for Venezuela.

A. metzli has been considered a subspecies of *A. janus*. *Metzli* was the form in Mexico and Central America and *janus* in northern South America. Each is a good species and they exist together in Venezuela. The following is a comparison of the material taken at Rancho Grande and concerns only the males as no females were captured.

In *metzli* the apex of the forewing is produced, but in *janus* the apex is squarish.

In *metzli* the outer margin of the forewing is straight while in *janus* it is rounded, particularly in the area of the anal angle.

In *metzli* the transverse line crossing the forewing distal of the discal cell is continuous. The line may be slightly irregular between the veins, but the general effect is of a continuous line which, if not straight across the wing, is at least gradually or evenly curved. This line is crenulated in *janus*. The line at each vein is pointed. The line is usually made up of a series of arcs between the veins, but even in those instances where the lines between some of the veins are straight, the line is still produced distally on the veins.

In *metzli* the ground color is light yellow brown while in *janus* it is much darker and best described as wood brown. As a result, in *metzli* the pattern is more contrasting. Typically in *metzli* the eye spot in the hindwing is smaller than in *janus*, and thus in *metzli* the eye spot is further removed from the curved blackish-brown line encircling the outer half of the eye spot. However, this character is not constant, as a few specimens of *metzli* are before me in which the eye spot has become fused with the curved postmedian line. This variation occurs also in *janus* and has been called *collateralis* Hampson?

In *metzli* the red hairs originating at the base of the hindwing run only along the inner margin of the wing whereas in *janus* they also spread along the costal margin.

On the underside of the forewing of *metzli* the black, variously white-centered spot, is usually considerably smaller than the same spot in *janus*.

On the underside of the hindwing in *janus*

a diagonal tranverse vinaceous reddish line is present, running from the apex of the hindwing across the lower part of the end of the discal cell and terminating at vein Cu_2 near its origin from the discal cell. In *metzli* a similar line is frequently present, but it is fainter, a brownish rusty color, and originates basad of the apex of the hindwing on the costal margin and crosses the wing distally of the end of the discal cell. The line is straight in *janus* but curved in *metzli*.

There are various genitalic differences but the most distinctive lies in the uncus. Viewed dorsally the caudal end of the uncus in *metzli* is convex while in *janus* it is concave. This may be seen without extracting the genitalia.

| Size: | <i>metzli</i> ♂ | <i>janus</i> ♂ |
|----------|-----------------|----------------|
| Largest | 65 mm | 68 mm |
| Smallest | 48 mm | 59 mm |
| Average | 60 mm | 63 mm |

AUTOMERIS (AUTOMERIS) EGEUS BOOPS Felder

Felder, Reise d. Novara, Zool. II, Lep. IV, t. 89, fig. 6, Erklar. d. Tafeln. 75-107, p. 5 (1874).

Two male specimens taken on April 21 and June 14.

Range.—Colombia, Venezuela and the Guianas to southern Brazil and Bolivia. This particular subspecies is restricted to Colombia and Venezuela.

AUTOMERIS (AUTOMERIS) NYCTIMENE NYCTIMENE Latreille

Latreille in Humboldt & Bonpland, Rec. d'Observ. de Zool., II, p. 133, No. 158, t. 43, figs. 1, 2 (1832).

Nine specimens: March 15 (46258); April 26 (♀); May 5, 7, 21, 22 and 24; July 1 and 9.

Range.—Mexico, Colombia, Ecuador and Brazil. This subspecies is the South American form and is a new record for Venezuela.

AUTOMERINA (AUTOMERULA) AULETES (Herrich-Schäffer)

Herrich-Schäffer, Samml. aussereurop. Schmett., I, figs. 96, 97 (1853). (*Jo*).

One male on May 22.

Range.—Panama to Bolivia and Brazil.

HYPERCHIRIA NAUSICA NAUSICA (Cramer)

Cramer, Pap. Exot., III, p. 96, t. 249, figs. D, E (1779). (*Phalaena Attacus*).

Twenty-two specimens: March 16, 17, 28 and 29; April 2, 16 (2), 26 (4) and 30 (♀); May 2, 5, 6, 7, 14, 20 and 25; June 29 (2); July 11.

Range.—Mexico to the Guianas and Peru and Bolivia. The subspecies *Azteca* was described

from Mexico. This is a new record for Venezuela.

HYLESIA (HYLESIA) species

We have a large number of specimens of the genus *Hylesia*. The vagueness of published descriptions and lack of sufficient comparative material makes it advisable to withhold treatment at present.

MOLIPPA SIMILLIMA Jones

Jones, Trans. Ent. Soc. Lond., p. 181-182, t. XIV, figs. 1, 1a (1907).

Ten specimens: March 31; April 23 (46371); May 2, 7 (3), 14 and 15 (♂ ♀); June 14.

Range.—Mexico to Colombia and Venezuela.

DIRPHIA (DIRPHIA) TARQUINIA (Cramer)

Cramer, Pap. Exot., I, pp. 6, 7, t. IV, figs. A, B (1775). (*Phalaena Attacus*).

One male specimen on April 17.

Range.—Venezuela, Guianas and Amazons.

DIRPHIA (DIRPHIA) SOMNICULOSA (Cramer)

Cramer, Pap. Exot., II, p. 6, t. 100, figs. A, B (1777). (*Phalaena Attacus*).

Five specimens: February 24; April 16, 19 and 20; June 16.

Range.—Colombia, Venezuela, Guianas and Brazil.

DIRPHIA (PERIPHOBIA) HIRCIA HIRCIA (Cramer)

Cramer, Pap. Exot., I, p. 49, t. XXX, fig. G (1775). (*Phalaena Attacus*).

Two specimens taken on May 14 and 16.

Range.—Mexico to Brazil. This is a new record for Venezuela.

DIRPHIA (DIRPHIOPSIS) PULCHRICORNIS Walker

Walker, Cat. Lep. Het. Brit. Mus., VI, p. 1358, No. 16 (1855).

Forty-one specimens: March 19 (46275) (2); April 5, 8, 17, 19, 25 (2) and 26 (9); May 2, 7 (3), 8 (2), 11 (2), 13, 14, 15 and 24 (2); June 10 and 18; July 1, 8, 9, 11 (2), 12 (2), 20 (♀) and 21.

Range.—Mexico to Brazil.

SATURNIINAE

COPAXA (COPAXA) DECRESCENS Walker

Walker, Cat. Lep. Het. Brit. Mus., V, p. 1237, No. 2 (1855).

Two specimens: A male on August 4 of the form *rufinans* Schaus and a female on July 19 of the form *purpurascens* Draudt.

Range.—Mexico through Central America to Ecuador, the Guianas and Brazil. This is a new record for Venezuela.

COPAXA (COPAXA) EXPANDENS Walker
Walker, Cat. Lep. Het. Brit. Mus., V, p. 1238,
No. 3 (1855).

Four specimens: March 29; May 5; July 26
(♀); August 4.

Range.—Panama and Venezuela.

ROTHSCHILDIA AUROTA AUROTA (Cramer)
Cramer, Pap. Exot., I, p. 11, t. VIII, fig. A
(1775). (*Phalaena Attacus Atlas*).

One female on May 7 and a male on May 22.
Range.—Mexico to Argentina. This subspecies

is found in Central America and northern South
America.

ROTHSCHILDIA LEBEAU LEBEAU
(Guérin-Méneville)

Guérin-Méneville, Rev. Mag. Zool., p. 320
(1868). (*Attacus*).

Eight specimens: April 24; May 5 (2), 6 (♀),
12 (♀), 15 (♀) and 30; July 1.

Range.—Mexico to Colombia and Venezuela.
A subspecies, *aroma* Schaus, was described from
Honduras.